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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,823	06/13/2002	Kouichi Wada	02008/073001	8323

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EXAMINER

TANG, MINH NHUT

ART UNIT PAPER NUMBER

2829

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,823

Applicant(s)

WADA ET AL.

Examiner

Minh N. Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment on October 09, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6/02; 1/02. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species of Fig. 10, filed on October 09, 2003, is acknowledged.
2. Claims 7-9, 12-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse on October 09, 2003.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on January 18, 2002 and June 13, 2002 are considered by the examiner.

Drawings

5. Figures 1-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet ***within the range of 50 to 150 words***. It is important that the abstract ***not exceed 150 words in length*** since the space provided for the

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abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 2-6, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2 and 3, the limitation "said contactor" (singular) has not been recited previously; therefore this term is indefinite. For examination purpose "said contactor is" is interpreted as -- said contactors are --.

In claim 4, the limitation "said contactor" (singular) has not been recited previously; therefore this term is indefinite. For examination purpose "said contactor" is interpreted as -- each of said contactors --.

In claim 5, the limitations "said signal transmission path", "said end", and "said contactor" have not been recited previously; therefore these terms are indefinite. For examination purpose "said signal transmission path", "said end", and "said contactor" are interpreted as -- said signal transmission paths --, -- said ends --, and -- said contactors --, respectively. Furthermore, "of it is" is interpreted as -- are --.

In claim 6, the limitation "said signal transmission path" (singular) has not been recited previously; therefore this term is indefinite. For examination purposes, "said signal transmission path" is interpreted as -- said signal transmission paths --.

In claim 11, the limitation "said voltage providing unit is formed on an area other than areas of said backside of said substrate corresponding to areas of said one side of said substrate where said contactors are formed" is vague since it is unable to locate where the voltage providing unit is actually formed.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1-6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trenary (U.S.P. 4,965,865) in view of Masumoto et al. (U.S.P. 5,324,368).

As to claims 1 and 5, Trenary discloses, in Figs. 1-3, a probe card (10) electrically coupled to a plurality of contact terminals (34) provided on a circuit under test (36) for performing signal transmission between said circuit under test (36) and an external semiconductor testing equipment, comprising: a substrate (12); a plurality of signal transmission paths (24, Fig. 3) formed on said substrate (12); and a plurality of contactors (30, 32) formed on ends of said plurality of signal transmission paths (24) on one side (14) of said substrate (12), wherein said plurality of contactors (30, 32) contacted to said contact terminals (34) provided on said circuit under test (36). Trenary does not disclose said plurality of contactors are made of an amorphous material comprising a supercooled liquid phase region. Masumoto et al. disclose a process for forming an amorphous material having a supercooled liquid phase region that can be used as mechanical structure parts and components of high strength and high corrosion resistance, various strength members, electronic parts, arts and crafts, original printing plates, or the like. It would have been obvious for one of ordinary skill in the art at the

time the invention was made to modify the probe card of Trenary by providing an amorphous material having a supercooled liquid phase region as taught by Masumoto et al for the probes (26, i.e., including transmission paths 24 and contactors 30, 32) of Trenary so that they can have excellent strength and corrosion resistance.

As to claim 2, Trenary discloses in Figs. 1-3, said contactors (30, 32) are formed to be separated from said substrate (12).

As to claim 3, Trenary discloses in Figs. 1-3, said contactors (30, 32) are extended to a predetermined direction from a surface (14) of said substrate (12).

As to claim 4, Trenary discloses in Figs. 1-3, each of said contactors (30, 32) has a vertical elasticity against a surface (14) of said substrate (12).

As to claim 6, Trenary discloses in column 3, lines 53-59, a grounding line (42, 44), which is grounded, formed to be apart from and in parallel to said signal transmission paths (24).

As to claim 10, Trenary discloses in Fig. 8, a voltage providing unit for providing a predetermined voltage, said voltage providing unit being provided on a backside of said one side of said substrate (12).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Khoury et al.	6,399,900	Contact Structure Formed Over A Groove.
Marcus et al.	6,245,444	Micromachined Element And Method Of Fabrication Thereof.


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Akram et al.	6,028,436	Method For forming Coaxial Silicon Interconnects.
Bannerji et al.	5,166,774	Selectively Releasing Conductive Runner And Substrate Assembly Having Non-Planar Areas.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (703) 305-1652 or (571) 272-1971 if calling after January 12, 2004. The examiner can normally be reached on M-F (6:30-4:00) first Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mrs. Cuneo, Kamand can be reached on (703) 308-1233 or (571) 272-1957 if calling after January 12, 2004. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.


12/24/03